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# VIRM: In-service certification amendment 1 November 2018

October 2018

## ***List of changes and preview pages (WoF only)***

### **In this amendment**

- Clarifications around retrofitting headlamps and standards
- Update to headlamp sections to align with the rule and other lighting sections 'Where a headlamp comprises an array of light sources (eg LEDs) fewer than 75% of these operate'.
- Clarification of the definition of bumper bar (including a new image)
- Clarification about wastegates and silenced exhaust systems
- Update to tyres sections to include further examples of fail items when tyre information is removed or concealed
- New motorcycles section: Electric and hybrid electrical systems
- Other Electric and hybrid electrical systems sections updated to say that specialist certification is always required for changes to the high voltage electrical system
- New technical bulletin on the inspection of light bars.

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# LIST OF CHANGES

To view the changes see the [Preview pages](#) following the table below.

| SECTION                                     | CHANGE DESCRIPTION  |
|---|---|
| <b>General vehicles</b>                     |   |
| 3-1 Structure                               | <ul style="list-style-type: none"> <li>Clarification around the definition of a bumper bar including new figure 3-1-3</li> </ul>  |
| 4-1 Headlamps                               | <ul style="list-style-type: none"> <li>Clarifications around retrofitting headlamps and standards</li> <li>New Rfr and Sol to align with rule where a lamp comprises an array of light sources (eg LEDs), it is a fail if fewer than 75% of these operate.</li> <li>Some re-ordering of Rfrs into a <i>Modification</i> section</li> <li>Rfr 18 reworded to clarify that retrofitted headlamps must be fitted in pairs</li> </ul>             |
| 4-9 End-outline marker lamps                | <ul style="list-style-type: none"> <li>New notes added regarding the treatment of original equipment</li> </ul>   |
| 4-13 Rear reflectors                        | <ul style="list-style-type: none"> <li>A rearward facing reflector must reflect light as red</li> </ul>   |
| 4-15 Other lighting                         | <ul style="list-style-type: none"> <li>Section renamed from 'Cosmetic lamps'</li> <li>Specifications around work lamp switches and circuits</li> <li>Two new Rfrs regarding forward-facing reflectors</li> <li>Table 4-15-1. Lamps that are not cosmetic lamps: Reflective material, work lamps, scene lamps and alley lamps removed from 'Other lighting equipment not requiring inspection'</li> <li>Definitions added to Note 1</li> </ul> |
| 10-1 Tyres and wheels                       | <ul style="list-style-type: none"> <li>Update to include further examples of fail items when tyre information is removed or concealed, including extra images</li> </ul>  |
| 11-1 Exhaust system                         | <ul style="list-style-type: none"> <li>Clarification in Note 6 about wastegates and silenced exhaust systems</li> </ul>   |
| 13-5 Electric and hybrid electrical systems | <ul style="list-style-type: none"> <li>Specialist certification is always required for changes to the high voltage electrical system</li> </ul>   |
| <b>Motorcycles</b>                          |   |
| 4-1 Headlamps                               | <ul style="list-style-type: none"> <li>Clarifications around retrofitting headlamps and standards</li> <li>New Rfr and Sol to align with rule where a lamp comprises an array of light sources (eg LEDs), it is a fail if fewer than 75% of these operate.</li> </ul>   |
| 4-15 Other lighting                         | <ul style="list-style-type: none"> <li>Section renamed from 'Cosmetic lamps'</li> <li>Specifications around work lamp switches and circuits</li> <li>Table 4-15-1. Lamps that are not cosmetic lamps: Reflective material, work lamps, scene lamps and alley lamps removed from 'Other lighting equipment not requiring inspection'</li> <li>Definitions added to Note 1</li> </ul>   |

|   |   |
|---|---|
| 10-1 Tyres and wheels                       | <ul style="list-style-type: none"><li>Update to include further examples of fail items when tyre information is removed or concealed</li></ul>      |
| 13-5 Electric and hybrid electrical systems | <ul style="list-style-type: none"><li>New section added. Aligns the motorcycle section with general vehicles, heavy vehicles, LPSV, HPSV.</li></ul> |
| <b>General trailers</b>                     |   |
| 7-1 Tyres and wheels                        | <ul style="list-style-type: none"><li>Update to include further examples of fail items when tyre information is removed or concealed</li></ul>      |
| <b>Technical bulletins (general)</b>        |   |
| 13 Light bars                               | <ul style="list-style-type: none"><li>How to treat light bars when treated as headlamps, and how to treat them when fitted as work lamps</li></ul>  |

# PREVIEW PAGES

## General vehicles

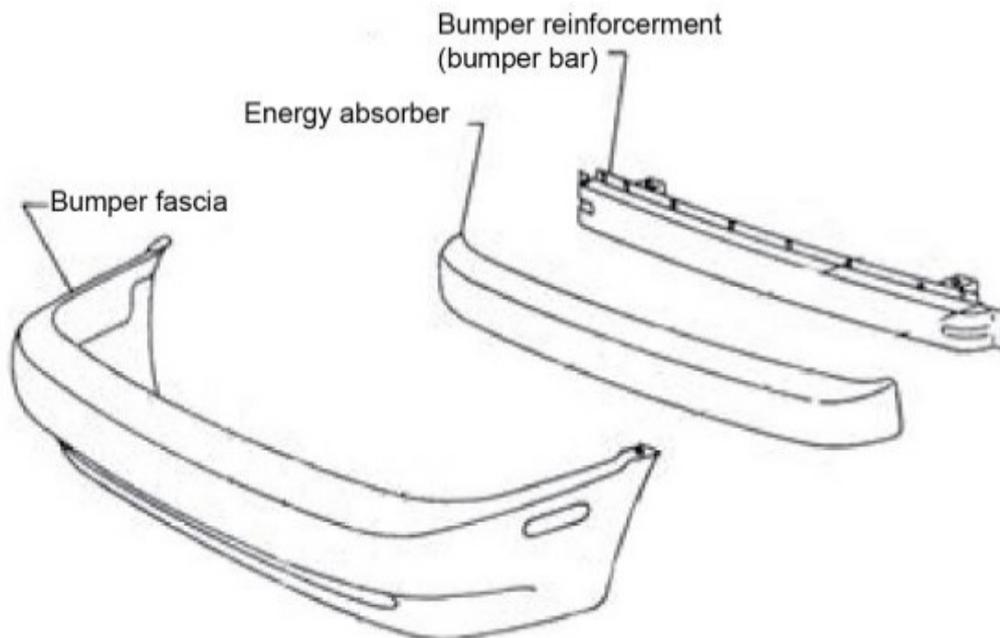
### 3-1 Structure

#### Note 2

**Corrosion damage** is where the metal has been eaten away, which is evident by pitting. The outward sign of such corrosion damage is typically displayed by the lifting or bubbling of paint. In extreme cases, the area affected by the corrosion damage will fall out and leave a hole.

**Bumper bar** means either the structural part inside a plastic bumper or a complete metal bumper as used on older vehicles. The bumper fascia (bumper cover) is not part of the bumper structure. It is the bumper reinforcement (also known as the bumper beam) that is the actual bumper bar for inspection purposes (see **Figure 3-1-3**).

**Figure 3-1-3. Bumper structure**



The bumper fascia (bumper cover) is not part of the bumper structure. It is the bumper reinforcement (also known as the bumper beam) that is the actual bumper bar for inspection purposes.

## 4-1 headlamps

17. Where a headlamp comprises an array of light sources (eg LEDs) fewer than 75% of these operate.

### Modifications

18. A headlamp is **retrofitted** with a type of light source other than that specified by the vehicle manufacturer or the headlamp manufacturer (eg a headlamp designed for a halogen bulb is fitted with any other type of light source such as an HID or LED bulb, or any other light source such as LED strips or non-OEM angel eyes) (**Note 8**).

19. Retrofitted headlamps are not fitted:

- a) as a pair, or
- b) symmetrically, or
- c) as far towards each side of the vehicle as is practicable.

20. A retrofitted dipped-beam headlamp on a vehicle with a GVM of 12,000 kg or less is positioned at a height exceeding 1.2m from the ground (**Note 9**).

Reasons for rejection

Tables and images

Summary of legislation

### Note 8

A high-intensity discharge (HID or Xenon HID) conversion kit consists of an HID bulb with a high voltage power output or 'ballast' which fits into the original headlamp unit in place of the original bulb with no change to the headlamp lens, reflector or housing.

It is illegal to fit an HID conversion kit to a vehicle as it brings the headlamp out of standards compliance by producing poor beam patterns and light that is far too bright to be safe. The bulbs can also produce light that is noticeably blue and not the required substantially white or amber colour. Vehicle and headlamp manufacturers do not permit this modification, and these kits cannot be LVV certified.

It is permitted to replace a complete halogen headlamp unit with a complete HID or LED headlamp unit. **If the vehicle is required to meet an approved safety standard for headlamps, only approved headlamps can be retrofitted.**

Reasons for rejection

Tables and images

Summary of legislation

5. A vehicle required to meet an approved safety standard for lighting must continue to meet an approved safety standard for lighting.

22. Where a headlamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.

## 4-9 End-outline marker lamps

### Note 3

A vehicle originally manufactured with an end-outline marker lamp arrangement that differs from what is required or permitted in this section may retain the original end-outline marker lamps provided they remain fitted in their original position and perform as intended by the vehicle manufacturer. Lamps visible from the front and from the rear on the same side of the vehicle may be combined into one device.

### Note 4

**Vehicle manufacturer** means the original vehicle manufacturer and the final stage manufacturer in the case of certain modified vehicles (see **Technical bulletin 13: Acceptable overseas proof of modification**).

## 4-13 Rear reflectors

| Reasons for rejection  | Summary of legislation   |
|--|--|
|  | <p>9. A rearward-facing reflector on a vehicle reflects white light shining on it as anything other than red light (this does not apply to reflective material such as conspicuity/reflective tape).</p> |
| <p><b>Figure 4-13-1. Reflector vs reflective material</b></p>  |  |

## 4-15 Other lighting

| Reasons for rejection   | Tables and images | Summary of legislation  |
|---|-------------------|---|
|   |                   | <p>2. A work lamp that is fitted to a vehicle is wired in such a way that the switch or circuit for any mandatory or optional lamp controls it.</p> |
|   |                   | <p>4. A forward-facing reflector on a vehicle reflects white light shining on it as anything other than white or amber light.</p>                   |
|   |                   | <p>5. A side-facing reflector on a vehicle reflects white light shining on it as anything other than white or amber light.</p>                      |
| <p><b>Note 2 Definitions</b></p> <p><b>Lamp</b> means a device designed to emit light, and includes an array of separate light sources that appear as a continuous illuminated surface.</p> <p><b>Work lamp</b> means a high-intensity lamp that is not necessary for the operation of the vehicle but is designed to illuminate the area or scene and include scene lamps, spot lamps and alley lamps.</p> <p><b>Scene lamp</b> means a work lamp designed to provide a fixed or movable beam of light to illuminate the area around the vehicle or the vehicle itself.</p> <p><b>Alley lamp</b> means a work lamp designed primarily to provide a fixed or movable beam of light to the side of the vehicle it is fitted to.</p> <p><b>Reflective material</b> (or <b>retroreflective material</b>) means any material that is designed to reflect incident light back towards a light source or in a specific direction; but does not include a reflector.</p> |                   |   |

**Table 4-15-1. Lamps that are not cosmetic lamps**

| Lamps covered in the VIRM   | Other lighting equipment not requiring inspection   |
|---|---|
| Headlamps   | Interior lamps<br><i>Designed to illuminate the interior of the vehicle for the convenience of passengers</i>   |
| Stop lamps  |   |
| High-mounted stop lamps   | Flashing or revolving beacons   |
| Direction indicator lamps   | Illuminated vehicle-mounted signs<br><i>Includes PSV destination signs, taxi signs and variable message signs operated by enforcement officers, under a traffic management plan or permitted by other legislation</i> |
| Position lamps<br>(includes side-marker lamps and end-outline marker lamps) |   |
| Rear-registration-plate illumination lamps                                  | A light source that is a necessary part of equipment required or permitted by any enactment to be fitted to a vehicle<br><i>Includes LEDs that indicate status on eRUC labels</i>                                     |
| Rear reflectors   |   |
| Fog lamps   |   |
| Daytime running lamps   |   |
| Cornering lamps   |   |
| Reversing lamps   |   |
| PSV interior lamps  |   |
| Work lamps  |   |

2. A **cosmetic** lamp must be fitted in a fixed position on the vehicle and positioned so that no part of the light source is situated within 250mm of a mandatory lamp.

3. A work lamp that is fitted to a vehicle is wired in such a way that the switch or circuit for any mandatory or optional lamp controls it.

4. A vehicle may be fitted with reflective material to improve the visibility of the vehicle to other drivers and other road users, but the material must not dazzle, confuse or otherwise endanger their safety.

## Performance

5. A cosmetic lamp must:

- a) only emit light that is diffuse, and
- b) not emit light that flashes or otherwise varies in intensity or colour, and
- c) be fitted in a way, and be of a luminance that ensures, that it does not dazzle, confuse or distract other road users, and
- d) not emit a light that revolves, rotates or otherwise moves, and
- e) not cause confusion as to the orientation of the vehicle, and
- f) not emit a red light that is directly visible from the front of the vehicle, and
- g) not emit a light other than red or amber if the light is directly visible from the rear of the vehicle.

6. A forward-facing reflector on a vehicle must reflect white light shining on it as white or amber light.

7. A side-facing reflector on a vehicle must reflect white light shining on it as white or amber light.

## 10-1 Tyres and wheels

### Reasons for rejection

### Tables and images

### Summary of legislation

9. A tyre has had any of the following information removed or concealed so that the tyre can no longer be identified (Figure 10-1-4):

- manufacturer
- brand
- model
- load rating
- speed rating
- standards markings (where applicable)
- direction of rotation (where applicable).

**Figure 10-1-4. Example of tyres with information removed/concealed/obscured**

**Example of tyre with information obscured**



The white tape overlay on the tyre obscures all of the important information.

**Example of tyre with information removed**



## 7-7 Interior impact

| Reasons for rejection                                      | Tables and images | Summary of legislation   |
|--|-------------------|--|
| Additional accelerator pedal (for driving school vehicles) |                   | <ul style="list-style-type: none"> <li>the operation of the primary accelerator pedal is not affected, and</li> <li>no modifications to the primary accelerator pedal or any other part of the primary accelerator system has occurred, and</li> <li>adequate clearance is maintained between all pedals.</li> </ul> |

## 11-1 Exhaust system

### Note 6

Externally venting wastegates (screamer pipes) are not permitted and cannot be certified as they are not adequately muffled and the exhaust gasses do not exit behind the passenger compartment. However, wastegates that feed gasses into their own muffled exhaust system exiting behind the passenger compartment, or feed gasses back into the vehicle's exhaust system, are permitted.

## 13-5 Electric and hybrid vehicle electrical system

| Reasons for rejection  | Tables and images  | Summary of legislation |                                |   |                                       |  |                                |   |   |  |
|--|--|------------------------|--------------------------------|---|---------------------------------------|--|--------------------------------|---|---|--|
| <p><b>Table 13-5-1. Modifications that do not require specialist certification</b></p> <table border="1"> <thead> <tr> <th>Fitting of or modification to:</th> <th>Specialist certification is not required provided that:</th> </tr> </thead> <tbody> <tr> <td>Fuel system changes and modifications</td> <td> <ul style="list-style-type: none"> <li>no structural modifications have occurred to the vehicle during the installation or modification.</li> </ul> <p>Note: Specialist certification is <b>always</b> required for changes to the high voltage electrical system.</p> </td> </tr> <tr> <th>Fitting of or modification to:</th> <th>Specialist certification is never required:</th> </tr> <tr> <td>Any modification for the purposes of law enforcement or the provision of emergency services</td> <td> <ul style="list-style-type: none"> <li>in-service requirements for condition and performance must be met.</li> </ul> </td> </tr> </tbody> </table> |  |                        | Fitting of or modification to: | Specialist certification is not required provided that: | Fuel system changes and modifications | <ul style="list-style-type: none"> <li>no structural modifications have occurred to the vehicle during the installation or modification.</li> </ul> <p>Note: Specialist certification is <b>always</b> required for changes to the high voltage electrical system.</p> | Fitting of or modification to: | Specialist certification is never required: | Any modification for the purposes of law enforcement or the provision of emergency services | <ul style="list-style-type: none"> <li>in-service requirements for condition and performance must be met.</li> </ul> |
| Fitting of or modification to:   | Specialist certification is not required provided that:  |                        |                                |   |                                       |  |                                |   |   |  |
| Fuel system changes and modifications  | <ul style="list-style-type: none"> <li>no structural modifications have occurred to the vehicle during the installation or modification.</li> </ul> <p>Note: Specialist certification is <b>always</b> required for changes to the high voltage electrical system.</p> |                        |                                |   |                                       |  |                                |   |   |  |
| Fitting of or modification to:   | Specialist certification is never required:  |                        |                                |   |                                       |  |                                |   |   |  |
| Any modification for the purposes of law enforcement or the provision of emergency services  | <ul style="list-style-type: none"> <li>in-service requirements for condition and performance must be met.</li> </ul>   |                        |                                |   |                                       |  |                                |   |   |  |

## Motorcycles

### 4-1 headlamps

| Reasons for rejection  | Tables and images | Summary of legislation |
|--|-------------------|------------------------|
| 14. Where a headlamp comprises an array of light sources (eg LEDs) fewer than 75% of these operate.  |                   |                        |
| <b>Modifications</b>   |                   |                        |
| 15. A headlamp is retrofitted with a type of light source other than that specified by the vehicle manufacturer or the headlamp manufacturer (eg a headlamp designed for a halogen bulb is fitted with any other type of light source such as an HID or LED bulb, or any other light source such as LED strips or non-OEM angel eyes). |                   |                        |
| 16. A retrofitted pair of headlamps is not fitted: <ul style="list-style-type: none"> <li>a) symmetrically, or</li> <li>b) as far towards each side of the motorcycle as practicable.</li> </ul>   |                   |                        |
| 17. A retrofitted dipped-beam headlamp is positioned at a height exceeding 1.2m from the ground.   |                   |                        |

| Reasons for rejection  | Tables and images | Summary of legislation |
|--|-------------------|------------------------|
| 3. A vehicle required to meet an approved safety standard for lighting must continue to meet an approved safety standard for lighting. |                   |                        |
| 22. Where a headlamp comprises an array of light sources (eg LEDs), at least 75% of these must operate.                                |                   |                        |

### 4-13 Rear reflectors

| Reasons for rejection  | Summary of legislation |
|--|------------------------|
| 8. A rearward-facing reflector on a vehicle reflects white light shining on it as anything other than red light. |                        |

| Reasons for rejection  | Summary of legislation |
|--|------------------------|
| 8. A rearward-facing reflector on a vehicle must reflect white light shining on it as red light. |                        |

2. A work lamp that is fitted to a vehicle is wired in such a way that the switch or circuit for any mandatory or optional lamp controls it.

**Performance**

3. When switched on, a cosmetic lamp with a light-emitting surface not visible within the shaded areas in **Figure 4-15-1** emits a light that:

- a) is not diffuse, or
- b) flashes or otherwise varies in intensity or colour, or
- c) revolves, rotates or otherwise moves, or
- d) is too bright, and likely to dazzle other road users, or
- e) is likely to cause confusion about the orientation of the vehicle, or
- f) is red when seen directly from the front, or
- g) is not red or amber when seen directly from the rear.

**4-15 Other lighting**

| Reasons for rejection  | Tables and images | Summary of legislation |
|--|-------------------|------------------------|
| 5. A forward-facing reflector on a vehicle reflects white light shining on it as anything other than white or amber light. |                   |                        |
| 6. A side-facing reflector on a vehicle reflects white light shining on it as anything other than white or amber light.    |                   |                        |

| Reasons for rejection   | Tables and images  | Summary of legislation |                           |   |           |   |            |                         |                               |                           |  |  |  |                 |           |                       |                 |                 |                    |            |
|---|--|------------------------|---------------------------|---|-----------|---|------------|-------------------------|-------------------------------|---------------------------|--|--|--|-----------------|-----------|-----------------------|-----------------|-----------------|--------------------|------------|
| <p><b>Table 4-15-1. Lamps that are not cosmetic lamps</b></p> <table border="1"> <thead> <tr> <th style="background-color: #003366; color: white;">Lamps covered in the VIRM</th> <th style="background-color: #003366; color: white;">Other lighting equipment not requiring inspection</th> </tr> </thead> <tbody> <tr> <td>Headlamps</td> <td rowspan="2">Interior lamps - <i>Designed to illuminate the interior of the vehicle for the convenience of passengers.</i></td> </tr> <tr> <td>Stop lamps</td> </tr> <tr> <td>High-mounted stop lamps</td> <td>Flashing or revolving beacons</td> </tr> <tr> <td>Direction indicator lamps</td> <td rowspan="13">Illuminated vehicle-mounted signs - <i>Includes PSV destination signs, taxi signs, and variable message signs operated by enforcement officers, under a traffic management plan or permitted by other legislation.</i></td> </tr> <tr> <td>Position lamps (includes side-marker lamps and end-outline marker lamps)</td> </tr> <tr> <td>Rear registration-plate illumination lamps</td> </tr> <tr> <td>Rear reflectors</td> </tr> <tr> <td>Fog lamps</td> </tr> <tr> <td>Daytime running lamps</td> </tr> <tr> <td>Cornering lamps</td> </tr> <tr> <td>Reversing lamps</td> </tr> <tr> <td>PSV interior lamps</td> </tr> <tr> <td style="background-color: #ffffcc;">Work lamps</td> </tr> </tbody> </table> |  |                        | Lamps covered in the VIRM | Other lighting equipment not requiring inspection | Headlamps | Interior lamps - <i>Designed to illuminate the interior of the vehicle for the convenience of passengers.</i> | Stop lamps | High-mounted stop lamps | Flashing or revolving beacons | Direction indicator lamps | Illuminated vehicle-mounted signs - <i>Includes PSV destination signs, taxi signs, and variable message signs operated by enforcement officers, under a traffic management plan or permitted by other legislation.</i> | Position lamps (includes side-marker lamps and end-outline marker lamps) | Rear registration-plate illumination lamps | Rear reflectors | Fog lamps | Daytime running lamps | Cornering lamps | Reversing lamps | PSV interior lamps | Work lamps |
| Lamps covered in the VIRM   | Other lighting equipment not requiring inspection  |                        |                           |   |           |   |            |                         |                               |                           |  |  |  |                 |           |                       |                 |                 |                    |            |
| Headlamps   | Interior lamps - <i>Designed to illuminate the interior of the vehicle for the convenience of passengers.</i>  |                        |                           |   |           |   |            |                         |                               |                           |  |  |  |                 |           |                       |                 |                 |                    |            |
| Stop lamps  |  |                        |                           |   |           |   |            |                         |                               |                           |  |  |  |                 |           |                       |                 |                 |                    |            |
| High-mounted stop lamps   | Flashing or revolving beacons  |                        |                           |   |           |   |            |                         |                               |                           |  |  |  |                 |           |                       |                 |                 |                    |            |
| Direction indicator lamps   | Illuminated vehicle-mounted signs - <i>Includes PSV destination signs, taxi signs, and variable message signs operated by enforcement officers, under a traffic management plan or permitted by other legislation.</i> |                        |                           |   |           |   |            |                         |                               |                           |  |  |  |                 |           |                       |                 |                 |                    |            |
| Position lamps (includes side-marker lamps and end-outline marker lamps)  |  |                        |                           |   |           |   |            |                         |                               |                           |  |  |  |                 |           |                       |                 |                 |                    |            |
| Rear registration-plate illumination lamps  |  |                        |                           |   |           |   |            |                         |                               |                           |  |  |  |                 |           |                       |                 |                 |                    |            |
| Rear reflectors   |  |                        |                           |   |           |   |            |                         |                               |                           |  |  |  |                 |           |                       |                 |                 |                    |            |
| Fog lamps   |  |                        |                           |   |           |   |            |                         |                               |                           |  |  |  |                 |           |                       |                 |                 |                    |            |
| Daytime running lamps   |  |                        |                           |   |           |   |            |                         |                               |                           |  |  |  |                 |           |                       |                 |                 |                    |            |
| Cornering lamps   |  |                        |                           |   |           |   |            |                         |                               |                           |  |  |  |                 |           |                       |                 |                 |                    |            |
| Reversing lamps   |  |                        |                           |   |           |   |            |                         |                               |                           |  |  |  |                 |           |                       |                 |                 |                    |            |
| PSV interior lamps  |  |                        |                           |   |           |   |            |                         |                               |                           |  |  |  |                 |           |                       |                 |                 |                    |            |
| Work lamps  |  |                        |                           |   |           |   |            |                         |                               |                           |  |  |  |                 |           |                       |                 |                 |                    |            |

Reasons for rejection

Tables and images

Summary of legislation

## Performance

5. A cosmetic lamp must:

- a) only emit light that is diffuse, and
- b) not emit light that flashes or otherwise varies in intensity or colour, and
- c) be fitted in a way, and be of a luminance that ensures, that it does not dazzle, confuse or distract other road users, and
- d) not emit a light that revolves, rotates or otherwise moves, and
- e) not cause confusion as to the orientation of the vehicle, and
- f) not emit a red light that is directly visible from the front of the vehicle, and
- g) not emit a light other than red or amber if the light is directly visible from the rear of the vehicle.

7. A forward-facing reflector on a vehicle must reflect white light shining on it as white or amber light.

8. A side-facing reflector on a vehicle must reflect white light shining on it as white or amber light.

## 10-1 Tyres and wheels

Reasons for rejection

Tables and images

Summary of legislation

6. A tyre has had any of the following information removed or concealed so that the tyre can no longer be identified (Figure 10-1-3):

- manufacturer
- brand
- model
- load rating
- speed rating
- standards markings (where applicable)
- direction of rotation (where applicable).

## 13-5 Electric and hybrid vehicle electrical system

| Reasons for rejection  | Tables and images | Summary of legislation |
|--|-------------------|------------------------|
| <p><b>Condition (Note 1)</b></p> <p>1. <b>High voltage wiring</b> is:</p> <ul style="list-style-type: none"> <li>a) insecure or not adequately secured</li> <li>b) damaged or deteriorated (including insulation)</li> <li>c) likely to touch:                             <ul style="list-style-type: none"> <li>i. hot components of the vehicle</li> <li>ii. sharp edges</li> <li>iii. rotating parts</li> <li>iv. the ground.</li> </ul> </li> </ul> <p>2. <b>High voltage batteries</b> are:</p> <ul style="list-style-type: none"> <li>a) insecure or not adequately secured</li> <li>b) damaged or deteriorated (including components and electrical insulation)</li> <li>c) leaking, or showing signs of leaking.</li> </ul> <p>3. <b>High voltage battery shields</b> are damaged or not in place.</p> <p><b>Modification</b></p> <p>4. A modification affects the electrical system, and:</p> <ul style="list-style-type: none"> <li>a) is not excluded from the requirements for specialist certification (<b>Table 13-5-1</b>), or</li> <li>b) is missing proof of specialist certification, that is:                             <ul style="list-style-type: none"> <li>i. the vehicle is not fitted with a valid certification plate (eg low volume vehicle plate or heavy vehicle certification plate/label), or</li> <li>ii. the operator is not able to produce a valid modification declaration or authority card</li> <li>iii. The vehicle has not been certified to an accepted overseas system as described in <b>Technical bulletin 13</b>.</li> </ul> </li> </ul> <p><b>Note 1</b></p> <p>Vehicle inspectors are only required to do a visual check. An invasive check is not required.</p> |                   |                        |

| Reasons for rejection  | Tables and images  | Summary of legislation |                                |   |                                       |  |                                |   |   |  |
|--|--|------------------------|--------------------------------|---|---------------------------------------|--|--------------------------------|---|---|--|
| <p><b>Table 13-5-1. Modifications that do not require specialist certification</b></p> <table border="1"> <thead> <tr> <th style="background-color: #004a7c; color: white;">Fitting of or modification to:</th> <th style="background-color: #004a7c; color: white;">Specialist certification is not required provided that:</th> </tr> </thead> <tbody> <tr> <td style="background-color: #d9d9d9;">Fuel system changes and modifications</td> <td style="background-color: #d9d9d9;"> <ul style="list-style-type: none"> <li>• no structural modifications have occurred to the vehicle during the installation or modification.</li> </ul> <p>Note: Specialist certification is <b>always</b> required for changes to the high voltage electrical system.</p> </td> </tr> <tr> <th style="background-color: #004a7c; color: white;">Fitting of or modification to:</th> <th style="background-color: #004a7c; color: white;">Specialist certification is never required:</th> </tr> <tr> <td style="background-color: #d9d9d9;">Any modification for the purposes of law enforcement or the provision of emergency services</td> <td style="background-color: #d9d9d9;"> <ul style="list-style-type: none"> <li>• in-service requirements for condition and performance must be met.</li> </ul> </td> </tr> </tbody> </table> |  |                        | Fitting of or modification to: | Specialist certification is not required provided that: | Fuel system changes and modifications | <ul style="list-style-type: none"> <li>• no structural modifications have occurred to the vehicle during the installation or modification.</li> </ul> <p>Note: Specialist certification is <b>always</b> required for changes to the high voltage electrical system.</p> | Fitting of or modification to: | Specialist certification is never required: | Any modification for the purposes of law enforcement or the provision of emergency services | <ul style="list-style-type: none"> <li>• in-service requirements for condition and performance must be met.</li> </ul> |
| Fitting of or modification to:   | Specialist certification is not required provided that:  |                        |                                |   |                                       |  |                                |   |   |  |
| Fuel system changes and modifications  | <ul style="list-style-type: none"> <li>• no structural modifications have occurred to the vehicle during the installation or modification.</li> </ul> <p>Note: Specialist certification is <b>always</b> required for changes to the high voltage electrical system.</p> |                        |                                |   |                                       |  |                                |   |   |  |
| Fitting of or modification to:   | Specialist certification is never required:  |                        |                                |   |                                       |  |                                |   |   |  |
| Any modification for the purposes of law enforcement or the provision of emergency services  | <ul style="list-style-type: none"> <li>• in-service requirements for condition and performance must be met.</li> </ul>   |                        |                                |   |                                       |  |                                |   |   |  |

| Reasons for rejection   | Tables and images | Summary of legislation |
|---|-------------------|------------------------|
| <p><b>Applicable legislation</b></p> <ul style="list-style-type: none"> <li>• <b>Land Transport Rule: Vehicle Standards Compliance Rule 2002</b>, section 7.4</li> </ul> <p><b>Condition and performance</b></p> <ol style="list-style-type: none"> <li>1. The vehicle must be safe to be operated.</li> <li>2. The components and materials must be fit for their purpose and within safe tolerance of their state when manufactured or modified.</li> </ol> <p><b>Modifications</b></p> <ol style="list-style-type: none"> <li>3. A modification that affects the electrical system must be inspected and certified by a specialist certifier, unless the vehicle: <ul style="list-style-type: none"> <li>a) is excluded from the requirement for specialist certification (<b>Table 13-5-1</b>), and</li> <li>b) has been inspected in accordance with the requirements in this manual, including those for equipment, condition and performance.</li> </ul> </li> </ol> |                   |                        |

## General trailers

### 7-1 Tyres and wheels

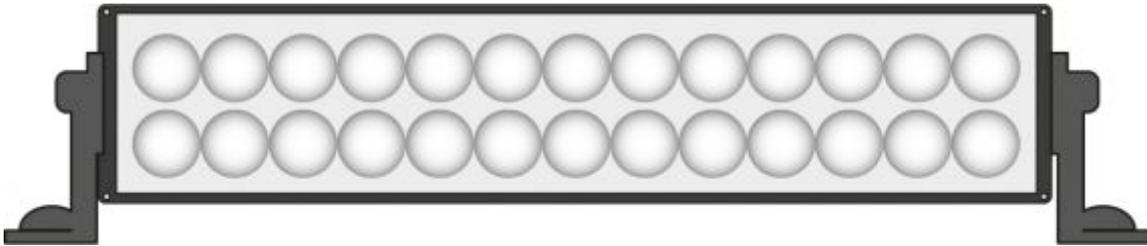
| Reasons for rejection  | Tables and images | Summary of legislation |
|--|-------------------|------------------------|
| <p>7. A tyre has had any of the following information removed or concealed so that the tyre can no longer be identified (<b>Figure 7-1-3</b>):</p> <ul style="list-style-type: none"> <li>• manufacturer</li> <li>• brand</li> <li>• model</li> <li>• load rating</li> <li>• speed rating</li> <li>• standards markings (where applicable)</li> <li>• direction of rotation (where applicable).</li> </ul> |                   |                        |

## Technical bulletins

### 14 Lightbars

A number of automotive LED light bars are readily available on the market and are being fitted to vehicles. Light bars are long lamps that consist of an array of LEDs, and that project a beam of light. These are generally intended to be fitted as a single lamp to the front centre of a vehicle.

These light bars typically resemble the following:



and



Light bars can be fitted as either headlamps or work lamps, but there are some very specific requirements around each type of fitting and use.

#### Light bars fitted as headlamps

- On cars and trucks, all headlamps **must be fitted as a pair** (eg not a single centred headlamp). This means that a **centre-mounted single light bar cannot be considered a headlamp**.
- Cars and trucks must be fitted with only one pair of dipped-beam headlamps and up to a maximum of two pairs of main-beam headlamps. Since vehicles come with an OEM dipped-beam headlamp, **a light bar cannot be added for dipped-beam use** (because a second pair is not allowed).
- On mopeds and motorcycles, headlamps can be fitted singly or in pairs, to a maximum of two dipped-beam headlamps and two main-beam headlamps.
- The headlamps cannot dazzle, confuse, or distract so as to endanger the safety of other road users.
- The centre of the beam pattern must be pointed horizontally or down (not upwards) and to the centre or left (not to the right).
- The main-beam headlamps must still be able to be dipped or extinguished from the driver's seating position.
- All headlamps must meet an approved safety standard unless fitted to older vehicles (before 1992 for class MA and NA, before 1996 for others (excluding group L, which are before 2006)).

**Note:** because many light bars on the New Zealand market do not comply with approved standards for headlamps, they cannot be fitted to a vehicle as headlamps.

#### Light bars fitted as work lamps

- A vehicle, other than a moped, may be fitted with one or more work lamps, which are defined as follows:
  - **Work lamp** means a high intensity lamp, which is not necessary for the operation of the vehicle but is designed to illuminate a work area or scene; and includes:
    - (a) a scene lamp; and

- (b) a spot lamp; and
- (c) an alley lamp.

- A work lamp isn't for normal on-road driving.
- Work lamps may only be used when the vehicle to which they're fitted is stationary or travelling slowly; and to illuminate a work area or scene.
- A work lamp must not be wired into the head lamps and must be switched to operate independently of other lighting equipment.

**Note:** a work lamp:

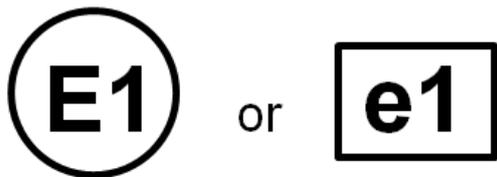
- cannot be fitted to a moped
- doesn't need to meet a lighting standard (as it is for off-road use only)

### How to treat light bars at WoF/CoF when fitted as headlamps

**Note:** because many light bars on the New Zealand market do not comply with approved standards for headlamps, they cannot be fitted to a vehicle as headlamps.

The first step is to determine if the lamp complies with an approved standard. Standards compliant lamps on sale in New Zealand should carry standards markings on the lens.

- European markings will consist of a circle containing a capital "E" followed by a number, or a rectangle containing a lower case "e" followed by a number (it does not matter what the number is)



- American markings will be the letters DOT, for example:

**DOT**

If one of these markings is found, the lamp can be accepted as standards compliant (Note: The Transport Agency is not aware of any of these lamps that have Japanese standards compliance).

If there are no markings on the lamp, it is likely to be non-compliant. The Transport Agency is not aware of any compliant light bars without standards markings at this time, but will update this bulletin if any are found on the market.

### How to treat light bars at WoF/CoF when fitted as work lamps

A non-standards compliant light bar, or a standards compliant light bar that is fitted as a single lamp might be classified as a work lamp if it were switched independently of all other lighting equipment.

In this case, the owner/operator of the vehicle should be advised that it is illegal to use the lamp for normal on-road driving.

If a non-compliant light bar is fitted, and it does not meet the criteria for being considered a work lamp, it must be failed a WoF/CoF.